

**FINANCIAL ASSISTANCE  
FUNDING OPPORTUNITY ANNOUNCEMENT**



**U.S. Department of Energy  
Office of Science**

**Offices of High Energy Physics,  
Nuclear Physics,  
Basic Energy Sciences, and  
Advanced Scientific Computing Research**

**Scientific Discovery Through Advanced Computing:  
Accelerator Science and Simulation**

**Funding Opportunity Number: DE-PS02-07ER07-09  
Announcement Type: Initial  
CFDA Number: 81.049**

**Issue Date:** December 1, 2006

**Application Due Date:** January 17, 2007, 8:00 PM Eastern Time

## **NOTE: REQUIREMENTS FOR GRANTS.GOV**

### **Where to Submit**

Applications must be submitted through Grants.gov to be considered for award. You cannot submit an application through Grants.gov unless you are registered. Please read the registration requirements carefully and start the process immediately. Remember you have to update your CCR registration annually. If you have any questions about your registration, you should contact the Grants.gov Helpdesk at 1-800-518-4726 to verify that you are still registered in Grants.gov.

### **Registration Requirements**

There are several one-time actions you must complete in order to submit an application through Grants.gov (e.g., obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number, register with the Central Contract Registry (CCR), register with the credential provider, and register with Grants.gov). See <http://www.grants.gov/GetStarted>. Use the Grants.gov Organization Registration Checklist at <http://www.grants.gov/assets/OrganizationRegCheck.doc> to guide you through the process. Designating an E-Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in the CCR registration process. Applicants, who are not registered with CCR and Grants.gov, should allow at least 21 days to complete these requirements.

**IMPORTANT NOTICE TO POTENTIAL APPLICANTS:** When you have completed the process, you should call the Grants.gov Helpdesk at 1-800-518-4726 to verify that you have completed the final step (i.e. Grants.gov registration).

### **Questions**

Questions relating to the registration process, system requirements, how an application form works, or the submittal process must be directed to Grants.gov at 1-800-518-4726 or [support@grants.gov](mailto:support@grants.gov). Part VII of this announcement explains how to submit other questions to the Department of Energy (DOE).

### **Application Receipt Notices**

After an application is submitted, the Authorized Organization Representative (AOR) will receive a series of five e-mails. It is extremely important that the AOR watch for and save each of the emails. It may take up to two (2) business days from application submission to receipt of email Number 2. You will know that your application has reached DOE when the AOR receives email Number 5. You will need the Submission Receipt Number (email Number 1) to track a submission. The titles of the five e-mails are:

- Number 1 – Grants.gov Submission Receipt Number
- Number 2 – Grants.gov Submission Validation Receipt for Application Number
- Number 3 – Grants.gov Grantor Agency Retrieval Receipt for Application Number
- Number 4 – Grants.gov Agency Tracking Number Assignment for Application Number
- Number 5 – DOE e-Center Grant Application Received

The last email will contain instructions for the AOR to register with the DOE e-Center. If the AOR is already registered with the DOE e-Center, the title of the last email changes to:

Number 5 – DOE e-Center Grant Application Received and Matched

This email will contain the direct link to the application in IIPS. The AOR will need to enter their DOE e-Center user id and password to access the application.

**VERY IMPORTANT – Download PureEdge Viewer**

In order to download the application package, you will need to install PureEdge Viewer. This small, free program will allow you to access, complete, and submit applications electronically and securely. For a free version of the software, visit the following web site:

<http://www.grants.gov/DownloadViewer>.

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## PART I – FUNDING OPPORTUNITY DESCRIPTION

**SUMMARY:** The Offices of Advanced Scientific Computing Research (ASCR), High Energy Physics (HEP), Nuclear Physics (NP), and Basic Energy Sciences (BES), U.S. Department of Energy (DOE), hereby announce their interest in receiving applications for basic Research and Development (R&D) projects relevant to the development of advanced simulations of particle accelerators and associated technologies. This research should provide the capability for comprehensive 3-dimensional, end-to-end modeling of existing and proposed particle accelerators, and advanced acceleration concepts, particularly aimed at HEP and NP applications, to optimize operations of current facilities and the design of future facilities. Subject to appropriations, funds are anticipated to be available within the SciDAC programs of ASCR, HEP, and NP to support this research.

A companion Program Announcement to DOE Laboratories (LAB 07-09) will be posted on the Office of Science Grants and Contracts web site at: <http://www.science.doe.gov/grants/>.

### SUPPLEMENTARY INFORMATION

#### **Background: Scientific Discovery Through Advanced Computing Program (SciDAC)**

The Scientific Discovery through Advanced Computing (SciDAC) program was initiated in 2001 as a partnership involving all SC program offices - Advanced Scientific Computing Research, Basic Energy Sciences, Biological and Environmental Research, Fusion Energy Sciences, High-Energy Physics and Nuclear Physics - to fully realize the potential of emerging high performance computers at that time for advancing scientific discovery. Researchers have achieved key scientific insights in a number of areas of National importance, yet many challenges of multi-scale, multi-disciplinary problems now facing science programs in DOE require advanced modeling and simulation capabilities on petascale computers. SciDAC projects should:

- Address obtaining significant insight into, or actually solve, a challenging problem of National scientific or engineering significance clearly related to DOE missions through computational science,
- Create open source scientific simulation codes that: achieve high single node performance; scale to thousands of nodes and tens-of-thousands of processors; and can be readily ported to other computer architectures,
- Develop applied mathematics and computer science methodology focused on computational science at the petascale and work with application scientists to apply innovations,
- Integrate computational science with discipline-driven applications through teaming and partnerships with computer scientists and applied mathematicians,
- Engage experimental and observational data-intensive science, and/or
- Empower new scientific communities to achieve scientific discovery through computational science.

#### **Grant Application**

**Accelerator Science and Simulation:** A comprehensive, coherent petascale simulation capability for the U.S. accelerator community is critical for the near and long-term priorities of DOE's Office of Science. We desire grant applications that can deliver a wide range of

simulation capabilities in accelerator physics, and in particular those that broadly address the needs and priorities of the High Energy Physics and Nuclear Physics communities, and can integrate electrodynamic modeling of accelerator structures with end-to-end beam dynamics and propagation. Applications that are limited to only particular phenomena or narrow aspects of accelerator physics will receive lower priority for funding.

High Energy Physics priorities in accelerator simulation are driven by optimization needs of existing HEP accelerators, such as the B-Factory and Tevatron; design of possible future accelerators, such as International Linear Collider (ILC) and other next-generation facilities including the neutrino factory / muon collider concept; and maintaining a vital DOE accelerator R&D program. Nuclear Physics priorities are the development of a design for a US rare isotope beam capabilities and maintaining an accelerator R&D development plan which includes the needs of the Continuous Electron Beam Accelerator Facility (CEBAF) Upgrade, electron cooling required for the luminosity upgrade of the Relativistic Heavy Ion Collider and, in the future, addresses the exploration of an electron-ion collider that would allow the gluon saturation of nuclear matter to be seen.

Basic Energy Sciences priorities include the optimization and upgrade of the accelerator-based BES light sources and neutron scattering facilities. In the design and commissioning of new Free Electron Lasers (FELS) such as the Linac Coherent Light Source (LCLS) simulations of the creation and transport of high brightness electron beams are another BES priority.

Topic areas for advanced modeling include, but are not limited to: high-accuracy computation of modes for superconducting RF cavities; realistic simulation of wakefield effects; parallelization of Radio Frequency Quadrupole simulations; self-consistent 3D calculations of Coherent Synchrotron Radiation, forces and their effects on the beam; electron cooling of beams; heavy ion transport: optimization of Particle-In-Cell codes; and adaptive mesh techniques for intense beams. Accelerator simulation codes which run on a variety of platforms; scale to petaflops and many thousands of processors; which are robust, documented, and can be easily used by the community of accelerator researchers; and are well integrated with visualization capacities will have the greatest impact on the field. Applications should address how they will meet these criteria.

In addition, grant applications must describe the computational approach for interacting with the SciDAC Institutes and Centers for Enabling Technologies. At a minimum, this description should include:

- Programming languages, libraries, and other software used.
- Description of the underlying mathematical formulation (e.g., ODE, PDE).
- Algorithms and numerical techniques employed (e.g., finite element, iterative solver).
- Parallel programming system used (e.g., MPI, OpenMP, "embarrassingly" parallel).
- Or data-intensive applications, describe the data storage and transfer requirements.

Synergistic collaborations with researchers in Federal Laboratories and Federally Funded Research and Development Centers (FFRDCs), including the DOE National Laboratories are expected, though no funds will be provided to these organizations under this Notice.

Laboratories should respond to the LAB 07-09 Announcement posted at: <http://www.science.doe.gov/grants/grants.html>. Partnerships among multiple institutions, that may include universities, laboratories, and/or private institutions, are anticipated for the scientific selection teams of the submissions. Additional information on collaboration is available in the Application Guide for the Office of Science Financial Assistance Program that is available via the Internet at the web address: <http://www.science.doe.gov/grants/Colab.html>.

In view of the wide applicability of the simulation codes called for in this request, and a potentially large group of users with different needs and requirements, we expect that successful applications will incorporate a clear management structure, as well as deliver the tools needed by the scientific applications in a timely fashion. The scientific teams should propose a program of work that achieves their goals consistent with this management structure, and aligned with the priorities of the High Energy Physics and Nuclear Physics programs as outlined above.

Applications that do not include a formal collaboration with one, or more, SciDAC Centers for Enabling Technology will not be considered for award. The Centers for Enabling Technology are authorized to enter into such collaborations within their existing scope and budget. No funds are to be requested under this Notice for sub-contracts, or task orders, to a Center for Enabling Technology for participation in a proposed collaboration.

Applicants must include a separate budget and statement for each proposed funding source. Successful applicants are not required to request funding from all three participating Office of Science programs; however, proposed funding sources should align with the specific nature of the work being performed, as documented in the application, and reflect the collaborative nature of the SciDAC program.



## **PART II – AWARD INFORMATION**

### **A. TYPE OF AWARD INSTRUMENT.**

DOE anticipates awarding cooperative agreements under this program announcement.

### **B. ESTIMATED FUNDING.**

It is anticipated that up to \$3,500,000 will be available for multiple awards to be made in Fiscal Year 2007, in the areas described above, contingent on the availability of appropriated funds. DOE is under no obligation to pay for any costs associated with the preparation or submission of an application. DOE reserves the right to fund, in whole or in part, any, all, or none of the applications submitted in response to this Solicitation.

### **C. MAXIMUM AND MINIMUM AWARD SIZE.**

Ceiling (i.e., the maximum amount for an individual award made under this announcement):  
\$ None

Floor (i.e., the minimum amount for an individual award made under this announcement):  
\$ None

### **D. EXPECTED NUMBER OF AWARDS.**

The number of awards will be determined by the number of excellent applications received and the total funds available for this program.

### **E. ANTICIPATED AWARD SIZE.**

N/A

### **F. PERIOD OF PERFORMANCE.**

Applications should be for one to three years, with a continuation of up to two additional years possible for those tasks requiring a multi-year effort. Given the scope of the R&D effort, we anticipate most proposals will be multi-year. For continuation of multi-year effort, out-year support is contingent on the availability of funds, progress of the research and programmatic needs.

### **G. TYPE OF APPLICATION.**

DOE will accept new applications under this announcement.

### **PART III - ELIGIBILITY INFORMATION**

#### **A. ELIGIBLE APPLICANTS.**

Applicants from U.S. Colleges and universities, non-profit organizations, for-profit commercial organizations, state and local governments, and unaffiliated individuals are eligible to apply.

Researchers from Federally Funded Research and Development Centers (FFRDCs) or DOE National Laboratories should respond to Program Announcement LAB 07-09, available at the following web address: [http://www.science.doe.gov/grants/LAB07\\_09.html](http://www.science.doe.gov/grants/LAB07_09.html).

#### **B. COST SHARING**

Cost sharing is encouraged but not required.

#### **C. OTHER ELIGIBILITY REQUIREMENTS.**

N/A

## PART IV – APPLICATION AND SUBMISSION INFORMATION

### A. ADDRESS TO REQUEST APPLICATION PACKAGE.

Application forms and instructions are available at Grants.gov. To access these materials, go to <http://www.grants.gov>, select "Apply for Grants", and then select "Download Application Package". Enter the CFDA and/or the funding opportunity number located on the cover of this announcement and then follow the prompts to download the application package.

**NOTE:** You will not be able to download the Application Package unless you have installed PureEdge Viewer (See: <http://www.grants.gov/DownloadViewer>).

### B. LETTER OF INTENT AND PREAPPLICATION.

#### 1. Letter of Intent.

Letters of Intent are not required.

#### 2. Preapplication.

Preapplications are not required.

### C. CONTENT AND FORM OF APPLICATION – SF 424 (R&R)

You must complete the mandatory forms and any applicable optional forms (e.g., SF-LLL-Disclosure of Lobbying Activities) in accordance with the instructions on the forms and the additional instructions below. **Files that are attached to the forms must be in Adobe Portable Document Format (PDF) unless otherwise specified in this announcement.**

#### 1. SF 424 (R&R)

Complete this form first to populate data in other forms. Complete all the required fields in accordance with the pop-up instructions on the form. To activate the instructions, turn on the "Help Mode" (Icon with the pointer and question mark at the top of the form). The list of certifications and assurances referenced in Field 18 can be found on the Applicant and Recipient Page at <http://grants.pr.doe.gov>, under Certifications and Assurances.

#### 2. RESEARCH AND RELATED Other Project Information.

Complete questions 1 through 5 and attach files. The files must comply with the following instructions:

##### **Project Summary/Abstract (Field 6 on the Form)**

The project summary/abstract must contain a summary of the proposed activity suitable for dissemination to the public. It should be a self-contained document that identifies the name of the applicant, the project director/principal investigator(s), the project title, the objectives of the project, a description of the project, including methods to be employed, the potential impact of the project (i.e., benefits, outcomes), and major participants (for collaborative projects). This document must not include

any proprietary or sensitive business information as the Department may make it available to the public. The project summary must not exceed 1 page when printed using standard 8.5" by 11" paper with 1" margins (top, bottom, left and right) with font not smaller than 11 point. To attach a Project Summary/Abstract, click "Add Attachment."

**Project Narrative (Field 7 on the form)**

The project narrative must not exceed **15** pages, including table of contents, charts, graphs, maps, photographs, and other pictorial presentations, when printed using standard 8.5" by 11" paper with 1 inch margins (top, bottom, left, and right).

EVALUATORS WILL ONLY REVIEW THE NUMBER OF PAGES SPECIFIED IN THE PRECEDING SENTENCE. The font must not be smaller than 11 point. Do not include any Internet addresses (URLs) that provide information necessary to review the application, because the information contained in these sites will not be reviewed. See Part VIII.D for instructions on how to mark proprietary application information. To attach a Project Narrative, click "Add Attachment."

**The first page of your narrative must include the following information (this page will not count in the project narrative page limitation):**

**Applicant/Institution:**

**Street Address/City/State/Zip:**

**Principal Investigator:**

**Address:**

**Telephone Number:**

**Email:**

**Funding Opportunity Announcement Number:** DE-PS02-07ER07-09

**DOE/Office of Science Program Office:**

**DOE/Office of Science Program Office Technical Contact:**

**DOE Grant Number (if Renewal or Supplemental Application):**

Is this a Collaboration? If yes, please list ALL Collaborating Institutions/Pis\* and indicate which ones will also be submitting applications. Also indicate the PI who will be the point of contact and coordinator for the combined research activity.

*\* Note that collaborating applications must be submitted separately.*

The project narrative must include:

Project Objectives.

This section should provide a clear, concise statement of the specific objectives/aims of the proposed project.

Project Timetable:

This section should outline as a function of time, year by year, all the important activities or phases of the project, including any activities planned beyond the project period. Successful applicants must use this project timetable to report progress.

### Project Performance Site

Indicate the primary site where the work will be performed. If a portion of the work will be performed at any other sites, identify those sites, also.

### Biographical Sketch Appendix

Provide a biographical sketch for the project director/principal investigator (PD/PI) and each senior/key person listed in Section A on the R&R Budget form. Provide the biographical sketch information as an appendix to your project narrative. Do not attach a separate file. The biographical sketch appendix will not count in the project narrative page limitation. The biographical information for each person must not exceed 3 pages when printed on 8.5" by 11" paper with 1 inch margins (top, bottom, left, and right) with font not smaller than 11 point and must include:

*Education and Training.* Undergraduate, graduate and postdoctoral training, provide institution, major/area, degree and year.

*Research and Professional Experience:* Beginning with the current position list, in chronological order, professional/academic positions with a brief description.

*Publications.* Provide a list of up to 10 publications most closely related to the proposed project. For each publication, identify the names of all authors (in the same sequence in which they appear in the publication), the article title, book or journal title, volume number, page numbers, year of publication, and website address if available electronically.

Patents, copyrights and software systems developed may be provided in addition to or substituted for publications.

*Synergistic Activities.* List no more than 5 professional and scholarly activities related to the effort proposed.

### Current and Pending Support Appendix.

List all current and pending support for each key person. For each organization providing support, show the total award amount for the entire award period (including indirect costs) and the number of person-months per year to be devoted to the project. Provide the Current and Pending Support as an appendix to your project narrative. Do not attach a separate file. The Current and Pending Support Appendix will not count in the project narrative page limitation. Concurrent submission of an application to other organizations for simultaneous consideration will not prejudice its review.

### Identification of Potential Conflicts of Interest/Bias in Selection of Reviewers Appendix.

Provide the following information in this appendix and append to your project narrative. Do not attach a separate file. (This appendix will not count in the project narrative page limitation):

Collaborators and Co-editors: List in alphabetical order all persons, including their current organizational affiliation, who are, or who have been, collaborators or co-authors with you on a research project, book or book article, report, abstract, or paper during the 48 months preceding the submission of this application. Also, list any individuals who are currently, or have been, co-editors with you on a special issue of a journal, compendium, or conference proceedings during the 24 months preceding the submission of this application. If there are no collaborators or co-editors to report, state “None.”

Graduate and Postdoctoral Advisors and Advisees: List the names and current organizational affiliations of your graduate advisor(s) and principal postdoctoral sponsor(s) during the last 5 years. Also, list the names and current organizational affiliations of your graduate students and postdoctoral associates during the past 5 years.

### **Facilities & Other Resources (Field 9 on the form)**

This information is used to assess the capability of the organizational resources, including subawardee resources, available to perform the effort proposed. Identify the facilities to be used (Laboratory, Animal, Computer, Office, Clinical and Other). If appropriate, indicate their capacities, pertinent capabilities, relative proximity, and extent of availability to the project. Describe only those resources that are directly applicable to the proposed work. Describe other resources available to the project (e.g., machine shop, electronic shop) and the extent to which they would be available to the project. In order to reduce the number of files attached to your application, please provide the Facility and Other Resource information as an appendix to your project narrative. This appendix will not count in the project narrative page limitation. **Do not attach a file in field 9.**

### **Equipment (Field 10 on the form)**

List major items of equipment already available for this project and, if appropriate identify location and pertinent capabilities. In order to reduce the number of files attached to your application, please provide the Equipment information as an appendix to your project narrative. This appendix will not count in the project narrative page limitation. **Do not attach a file in field 10.**

### **Other Attachment (Field 11 on the form)**

If you need to elaborate on your responses to questions 1-5 on the “Other Project Information” document, please provide this information as an appendix to your project narrative. This appendix will not count in the project narrative page limitation. **Do not attach a file in field 11.**

## **3. RESEARCH AND RELATED BUDGET.**

Complete the Research and Related Budget form in accordance with the instructions on the form (Activate Help Mode to see instructions) and the following instructions. You must complete a separate budget for each year of support requested. The form will generate a cumulative budget for the total project period. You must complete all the

mandatory information on the form before the NEXT PERIOD button is activated. You may request funds under any of the categories listed as long as the item and amount are necessary to perform the proposed work, meet all the criteria for allowability under the applicable Federal cost principles, and are not prohibited by the funding restrictions in this announcement (See PART IV, G).

**Budget Justification (Field K on the form).**

Provide the required supporting information for the following costs (See R&R Budget instructions): equipment; domestic and foreign travel; participant/trainees; material and supplies; publication; consultant services; ADP/computer services; subaward/consortium/contractual; equipment or facility rental/user fees; alterations and renovations; and indirect cost type. Provide any other information you wish to submit to justify your budget request. Attach a single budget justification file for the entire project period in Field K. The file automatically carries over to each budget year.

**4. SF-LLL Disclosure of Lobbying Activities**

If applicable, complete SF- LLL. Applicability: If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the grant/cooperative agreement, you must complete and submit Standard Form - LLL, "Disclosure Form to Report Lobbying."

**Summary of Required Forms/Files**

Your application must include the following documents:

<b>Name of Document</b>	<b>Format</b>	<b>Attach to</b>
<b>SF 424 (R&amp;R)</b>	PureEdge Form	N/A
<b>RESEARCH AND RELATED Other Project Information</b>	PureEdge Form	N/A
Project Summary/Abstract	PDF	Field 6
Project Narrative, including required appendices	PDF	Field 7
<b>RESEARCH &amp; RELATED SENIOR/KEY PERSON</b>	PureEdge Form	N/A
<b>RESEARCH &amp; RELATED BUDGET</b>	PureEdge Form	N/A
Budget Justification	PDF	Field K

**D. SUBMISSIONS FROM SUCCESSFUL APPLICANTS.**

If selected for award, DOE reserves the right to request additional or clarifying information for any reason deemed necessary, including, but not limited to:

- Indirect cost information
- Other budget information
- Name and phone number of the Designated Responsible Employee for complying with national policies prohibiting discrimination (See 10 CFR 1040.5)
- Representation of Limited Rights Data and Restricted Software, if applicable
- Commitment Letter from Third Parties Contributing to Cost Sharing, if applicable.

## **E. SUBMISSION DATES AND TIMES.**

### **Application Due Date.**

Applications must be received by January 17, 2007, 8:00 PM Eastern Time. You are encouraged to transmit your application well before the deadline. **APPLICATIONS RECEIVED AFTER THE DEADLINE WILL NOT BE REVIEWED OR CONSIDERED FOR AWARD.**

## **F. GOVERNMENTAL REVIEW**

This program is not subject to Executive Order 12372 – Intergovernmental Review of Federal Programs.

## **G. FUNDING RESTRICTIONS.**

**Cost Principles.** Costs must be allowable in accordance with the applicable Federal cost principles referenced in 10 CFR Part 600. The cost principles for commercial organization are in FAR Part 31.

**Pre-award Costs.** Recipients may charge to an award resulting from this announcement pre-award costs that were incurred within the ninety (90) calendar day period immediately preceding the effective date of the award, if the costs are allowable in accordance with the applicable Federal cost principles referenced in 10 CFR Part 600. Recipients must obtain the prior approval of the contracting officer for any pre-award costs that are for periods greater than this 90 day calendar period.

Pre-award costs are incurred at the applicant's risk. DOE is under no obligation to reimburse such costs if for any reason the applicant does not receive an award or if the award is made for a lesser amount than the applicant expected.

## **H. OTHER SUBMISSION AND REGISTRATION REQUIREMENTS**

### **1. Where to Submit.**

**APPLICATIONS MUST BE SUBMITTED THROUGH GRANTS.GOV TO BE CONSIDERED FOR AWARD.** Submit electronic applications through the “Apply for



Grants” function at [www.Grants.gov](http://www.Grants.gov). If you have problems completing the registration process or submitting your application, call Grants.gov at 1-800-518-4726 or send an email to [support@grants.gov](mailto:support@grants.gov).

## 2. Registration Process.

You must COMPLETE the one-time registration process (all steps) before you can submit your first application through Grants.gov (See [www.grants.gov/GetStarted](http://www.grants.gov/GetStarted)). **We recommend that you start this process at least three weeks before the application due date.** It may take 21 days or more to complete the entire process. Use the Grants.gov Organizational Registration Checklists at <http://www.grants.gov/assets/OrganizationRegCheck.doc> to guide you through the process. **IMPORTANT:** During the CCR registration process, you will be asked to designate an E-Business Point of Contact (EBIZ POC). The EBIZ POC must obtain a special password called “Marketing Partner identification Number” (MPIN).

When you have completed the process, you should call the Grants.gov Helpdesk at 1-800-518-4726 to verify that you have completed the final step (i.e. Grants.gov registration).

## 3. Application Receipt Notices

After an application is submitted, the Authorized Organization Representative (AOR) will receive a series of five e-mails. It is extremely important that the AOR watch for and save each of the emails. It may take up to two (2) business days from application submission to receipt of email Number 2. You will know that your application has reached DOE when the AOR receives email Number 5. You will need the Submission Receipt Number (email Number 1) to track a submission. The titles of the five e-mails are:

Number 1 - Grants.gov Submission Receipt Number  
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The last email will contain instructions for the AOR to register with the DOE e-Center. If the AOR is already registered with the DOE e-Center, the title of the last email changes to:

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This email will contain the direct link to the application in IIPS. The AOR will need to enter their DOE e-Center user id and password to access the application.

## **Part V - APPLICATION REVIEW INFORMATION**

### **A. CRITERIA**

#### **1. Initial Review Criteria.**

Prior to a comprehensive merit evaluation, DOE will perform an initial review in accordance with 10 CFR 605.10(b).

#### **2. Merit Review Criteria.**

Applications will be subjected to formal merit review (peer review) and will be evaluated against the following evaluation criteria which are listed in descending order of importance codified at 10 CFR 605.10(d):

1. Scientific and/or Technical Merit of the Project;
2. Appropriateness of the Proposed Method or Approach;
3. Competency of Applicant's personnel and Adequacy of Proposed Resources;
4. Reasonableness and Appropriateness of the Proposed Budget.

The evaluation process will include program policy factors such as the relevance of the proposed research to the terms of the announcement and the agency's programmatic needs. Note that external peer reviewers are selected with regard to both their scientific expertise and the absence of conflict-of-interest issues. Both Federal and non-Federal reviewers may be used, and submission of an application constitutes agreement that this is acceptable to the investigator(s) and the submitting institution.

### **B. REVIEW AND SELECTION PROCESS.**

#### **1. Merit Review.**

Applications that pass the initial review will be subjected to a merit review in accordance with the guidance provided in the "Office of Science Merit Review System for Financial Assistance." This Merit Review System is available at <http://www.science.doe.gov/grants/merit.html>.

#### **2. Selection.**

The Selection Official will consider the merit review recommendation, program policy factors, and the amount of funds available.

#### **3. Discussions and Award.**

The Government may enter into discussions with a selected applicant for any reason deemed necessary, including, but not limited to: (1) the budget is not appropriate or reasonable for the requirement; (2) only a portion of the application is selected for award; (3) the Government needs additional information to determine that the recipient is

capable of complying with the requirements in 10 CFR part 600; and/or (4) special terms and conditions are required. Failure to resolve satisfactorily the issues identified by the Government will preclude award to the applicant.

**C. ANTICIPATED NOTICE OF SELECTION AND AWARD DATES.**

It is anticipated that project selection will be completed by April 30, 2007.

## **Part VI - AWARD ADMINISTRATION INFORMATION**

### **A. AWARD NOTICES.**

#### **1. Notice of Selection.**

DOE will notify applicants selected for award. This notice of selection is not an authorization to begin performance. (See Part IV.G with respect to the allowability of pre-award costs.)

Organizations whose applications have not been selected will be advised as promptly as possible. This notice will explain why the application was not selected.

#### **2. Notice of Award.**

A Notice of Financial Assistance Award issued by the contracting officer is the authorizing award document. It normally includes, either as an attachment or by reference: 1. Special Terms and Conditions; 2. Applicable program regulations, if any; 3. Application as approved by DOE/NNSA.; 4. DOE assistance regulations at 10 CFR Part 600, or, for Federal Demonstration Partnership (FDP) institutions, the FDP terms and conditions; 5. National Policy Assurances To Be Incorporated As Award Terms; 6. Budget Summary; and 7. Federal Assistance Reporting Checklist, which identifies the reporting requirements.

### **B. ADMINISTRATIVE AND NATIONAL POLICY REQUIREMENTS.**

#### **1. Administrative Requirements.**

The administrative requirements for DOE grants and cooperative agreements are contained in 10 CFR part 600 and 10 CFR Part 605 (See: <http://ecfr.gpoaccess.gov>), except for grants made to Federal Demonstration Partnership (FDP) institutions. The FDP terms and conditions and DOE FDP agency specific terms and conditions are located on the National Science Foundation web site at [http://www.nsf.gov/awards/managing/fed\\_dem\\_part.jsp](http://www.nsf.gov/awards/managing/fed_dem_part.jsp).

#### **2. Special Terms and Conditions and National Policy Requirements.**

The DOE Special Terms and Conditions for Use in Most Grants and Cooperative Agreements are located at <http://grants.pr.doe.gov>. The National Policy Assurances To Be Incorporated As Award Terms are located at <http://grants.pr.doe.gov>.

#### **Intellectual Property Provisions.**

The standard DOE financial assistance intellectual property provisions applicable to the various types of recipients are located at [http://www.gc.doe.gov/techtrans/sipp\\_matrix.html](http://www.gc.doe.gov/techtrans/sipp_matrix.html).

### **C. REPORTING.**

Reporting requirements are identified on the Federal Assistance Reporting Checklist, DOE F 4600.2, attached to the award agreement.

## PART VII - QUESTIONS/AGENCY CONTACTS

### A. QUESTIONS

Questions regarding the content of the announcement must be submitted through the “Submit Question” feature of the DOE Industry Interactive Procurement System (IIPS) at <http://e-center.doe.gov>. Locate the program announcement on IIPS and then click on the “Submit Question” button. Enter required information. You will receive an electronic notification that your question has been answered. DOE will try to respond to a question within 3 business days, unless a similar question and answer have already been posted on the website.

Questions relating to the registration process, system requirements, how an application form works, or the submittal process must be directed to Grants.gov at 1-800-518-4726 or [support@grants.gov](mailto:support@grants.gov). **DOE cannot answer these questions.**

### B. AGENCY CONTACTS:

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## **PART VIII - OTHER INFORMATION**

### **A. MODIFICATIONS.**

Notices of any modifications to this announcement will be posted on Grants.gov and the DOE Industry Interactive Procurement System (IIPS). You can receive an email when a modification or an announcement message is posted by joining the mailing list for this announcement through the link in IIPS. When you download the application at Grants.gov, you can also register to receive notifications of changes through Grants.gov.

### **B. GOVERNMENT RIGHT TO REJECT OR NEGOTIATE.**

DOE reserves the right, without qualification, to reject any or all applications received in response to this announcement and to select any application, in whole or in part, as a basis for negotiation and/or award.

### **C. COMMITMENT OF PUBLIC FUNDS.**

The Contracting Officer is the only individual who can make awards or commit the Government to the expenditure of public funds. A commitment by other than the Contracting Officer, either explicit or implied, is invalid.

### **D. PROPRIETARY APPLICATION INFORMATION.**

Patentable ideas, trade secrets, proprietary or confidential commercial or financial information, disclosure of which may harm the applicant, should be included in an application only when such information is necessary to convey an understanding of the proposed project. The use and disclosure of such data may be restricted, provided the applicant includes the following legend on the first page of the project narrative and specifies the pages of the application which are to be restricted:

“The data contained in pages \_\_\_\_\_ of this application have been submitted in confidence and contain trade secrets or proprietary information, and such data shall be used or disclosed only for evaluation purposes, provided that if this applicant receives an award as a result of or in connection with the submission of this application, DOE shall have the right to use or disclose the data herein to the extent provided in the award. This restriction does not limit the government’s right to use or disclose data obtained without restriction from any source, including the applicant.”

To protect such data, each line or paragraph on the pages containing such data must be specifically identified and marked with a legend similar to the following:

“The following contains proprietary information that (name of applicant) requests not be released to persons outside the Government, except for purposes of review and evaluation.”

### **E. EVALUATION AND ADMINISTRATION BY NON-FEDERAL PERSONNEL.**

In conducting the merit review evaluation, the Government may seek the advice of qualified non-Federal personnel as reviewers. The Government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities. The applicant, by submitting its application, consents to the use of non-Federal reviewers/administrators. Non-Federal reviewers must sign conflict of interest and non-disclosure agreements prior to reviewing an

application. Non-Federal personnel conducting administrative activities must sign a non-disclosure agreement.

**F. INTELLECTUAL PROPERTY DEVELOPED UNDER THIS PROGRAM.**

Patent Rights. The government will have certain statutory rights in an invention that is conceived or first actually reduced to practice under a DOE award. 42 U.S.C. 5908 provides that title to such inventions vests in the United States, except where 35 U.S.C. 202 provides otherwise for nonprofit organizations or small business firms. However, the Secretary of Energy may waive all or any part of the rights of the United States subject to certain conditions. (See “Notice of Right to Request Patent Waiver” in paragraph G below.)

Rights in Technical Data. Normally, the government has unlimited rights in technical data created under a DOE agreement. Delivery or third party licensing of proprietary software or data developed solely at private expense will not normally be required except as specifically negotiated in a particular agreement to satisfy DOE’s own needs or to insure the commercialization of technology developed under a DOE agreement.

**G. NOTICE OF RIGHT TO REQUEST PATENT WAIVER.**

Applicants may request a waiver of all or any part of the rights of the United States in inventions conceived or first actually reduced to practice in performance of an agreement as a result of this announcement, in advance of or within 30 days after the effective date of the award. Even if such advance waiver is not requested or the request is denied, the recipient will have a continuing right under the award to request a waiver of the rights of the United States in identified inventions, i.e., individual inventions conceived or first actually reduced to practice in performance of the award. Any patent waiver that may be granted is subject to certain terms and conditions in 10 CFR 784.

Domestic small businesses and domestic nonprofit organizations will receive the patent rights clause at 37 CFR 401.14, i.e., the implementation of the Bayh-Dole Act. This clause permits domestic small business and domestic nonprofit organizations to retain title to subject inventions. Therefore, small businesses and nonprofit organizations do not need to request a waiver.

**H. NOTICE REGARDING ELIGIBLE/INELIGIBLE ACTIVITIES.**

N/A